

## ABSTRACT

A software emulator for emulating a handheld video game platform such as GAME BOY®, GAME BOY COLOR ® and/or GAME BOY ADVANCE® on a low-capability target platform (e.g., a seat-back display for airline or train use, a personal digital assistant, a cell phone) uses a number of features and optimizations to provide high quality graphics and sound that nearly duplicates the game playing experience on the native platform. Some exemplary features include use of bit BLITing, graphics character reformatting, modeling of a native platform liquid crystal display controller using a sequential state machine, and selective skipping of frame display updates if the game play falls behind what would occur on the native platform.